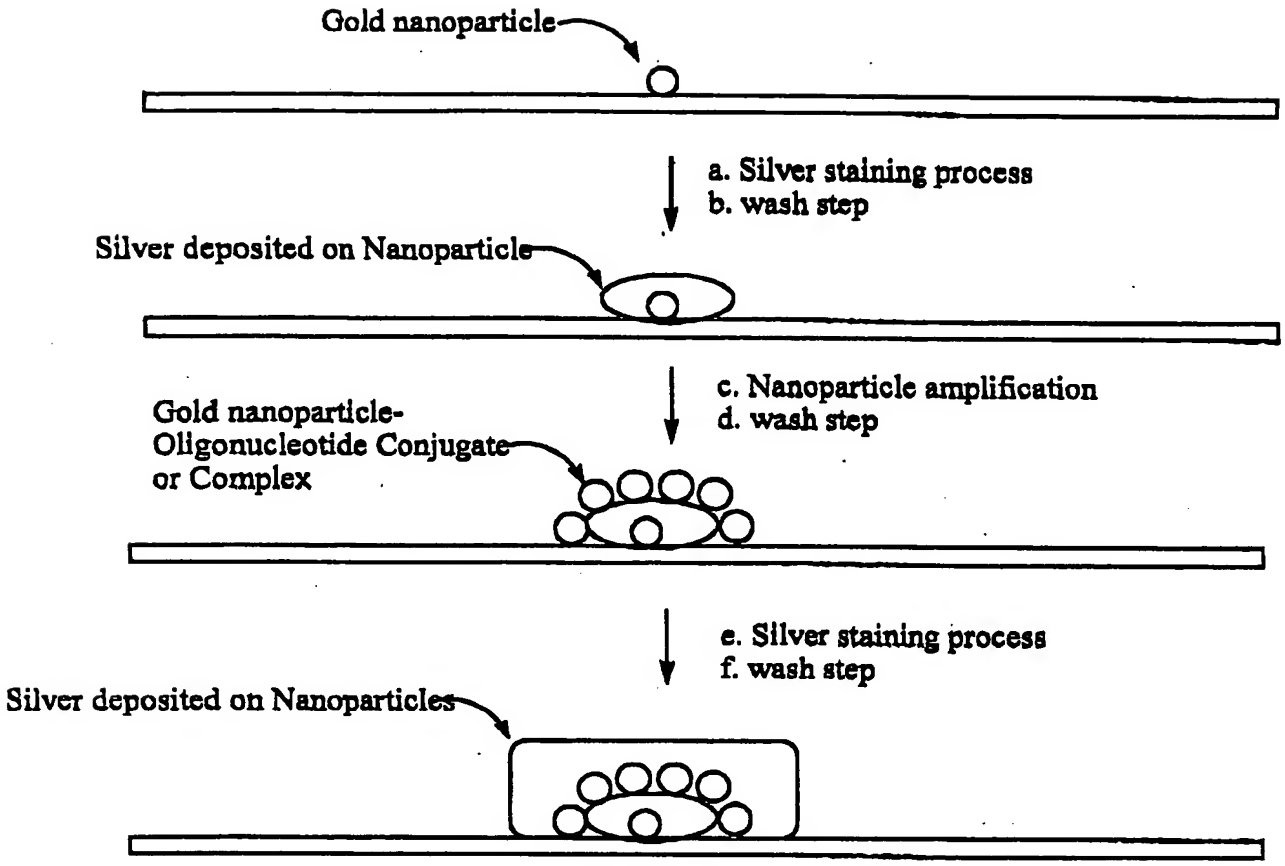


Figure 1. Schematic representation of amplification of a detection signal for a gold nanoparticle immobilized on a solid surface. Step "a" is conventional silver staining. In step " c" gold nanoparticles bearing oligonucleotides are bound to the silver surface. Step "e" is conventional silver staining of the gold nanoparticles that were bound to the previous silver surface.

Figure 2. (a) Silver signal after double silver staining.
(b) Silver signal after one silver staining step followed by treatment with I and a second silver step.

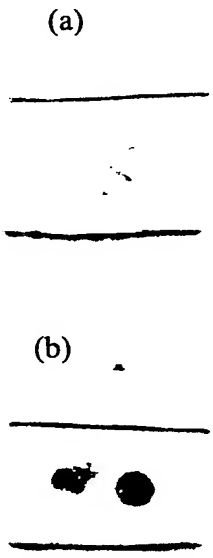
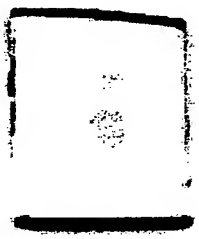


Figure 3. (a) Two spots from a conventional silver staining step on a very dilute DNA sample

(b) Same spots after further development using nanoparticle-oligonucleotide-complex III.

(a)



(b)

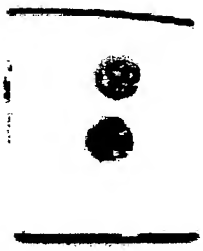


Figure 4: Silver spots for assays that used 25fM 63-mer oligonucleotide target solutions.

a) Spot from conventional silver staining.
b) Spot for silver-gold-'silver procedure where the gold' reagent is conjugate I.

(a)

(b)

Figure 5: Silver spot obtained by amplifying the silver residue obtained by conventional silver staining for an assay of an oligonucleotide at 1 fM concentration, using nanoparticle probes. The initial silver spot was not visible. Amplification was achieved by two cycles of the gold nanoparticle(reagent I) / silver procedure.